

WHAT IS CLAIMED IS:

1. A protective layer comprising a foam substrate and a formed skin, said formed skin at least partially enclosing said foam substrate.
2. A protective layer according to claim 1, said foam substrate comprising a flexible foam having a glass transition temperature less than 50°C.
3. A protective layer according to claim 1, said foam substrate comprising a flexible foam having a glass transition temperature of 0-40°C.
4. A protective layer according to claim 1, said formed skin being formed integrally with said foam substrate.
5. A protective layer according to claim 1, said formed skin being separately provided from said foam substrate and being subsequently melded thereto.
6. A protective layer according to claim 1, said foam substrate comprising flexible polyurethane foam, said formed skin comprising a formable thermoplastic.
7. A protective layer according to claim 1, said foam substrate comprising a resilient open cell foam.
8. A protective layer according to claim 7, said open cell foam being flexible polyurethane.
9. A protective layer according to claim 7, said open cell foam being semi-rigid polyurethane.
10. A protective layer according to claim 1, said formed skin having a plurality of vent holes provided therein, said vent holes providing fluid communication between the ambient environment and an outer surface of said foam substrate.

11. A protective layer according to claim 1, said formed skin having a first protective zone and a second protective zone, each said protective zone of said formed skin having a plurality of vent holes provided therein effective to regulate the rigidity of said protective layer adjacent said protective zone.

12. A protective layer according to claim 11, said protective layer being more rigid adjacent said first protective zone than adjacent said second protective zone.

13. A protective layer according to claim 11, said protective layer being a seamless protective layer, and being more rigid adjacent said first protective zone than adjacent said second protective zone.

14. A protective layer according to claim 11, said protective layer being a seamless protective layer.

15. A protective layer according to claim 1, said foam substrate comprising viscoelastic polymeric foam.

16. A protective layer according to claim 15, said viscoelastic polymeric foam having a density of  $104 \text{ kg/m}^3 \pm 30\%$ .

17. A protective layer according to claim 1, said foam substrate comprising a partially closed-cell polymeric viscoelastic foam.

18. A protective layer according to claim 1, said protective layer being a seamless protective layer and having a first protective zone and a second protective zone, said protective layer being more rigid adjacent said first protective zone than adjacent said second protective zone.

19. A protective layer according to claim 1, said formed skin having a porosity at least 10% lower than an outer surface of said foam substrate.

20. A protective layer according to claim 1, said foam substrate comprising at least a partially open cell foam, said foam substrate being effective to recover to a substantial proportion of its original shape following destructive deformation thereof resulting from an impact to said protective layer.

21. A protective layer according to claim 20, said foam substrate being effective to recover to at least 50% its original shape following said destructive deformation thereof.

22. A protective layer according to claim 1, said foam substrate comprising at least a partially open cell foam, wherein said protective layer exhibits energy absorptive properties of a flexible or semi-rigid foam at impact speeds less than 5 mph thereby being effective to absorb impact energy through non-destructive, recoverable deformation of the foam substrate, and wherein said protective layer exhibits energy absorptive properties of a rigid foam at impact speeds greater than 25 mph thereby being effective to dissipate and absorb impact energy through destructive deformation of the foam substrate.

23. A protective layer according to claim 22, said foam substrate being effective to recover to a substantial proportion of its original shape following destructive deformation thereof resulting from an impact to said protective layer.

24. A protective layer according to claim 22, said foam substrate being effective to recover to at least 50% of its original shape following said destructive deformation thereof.

25. A protective layer according to claim 22, said open cell foam being flexible polyurethane.

26. A protective layer according to claim 22, said open cell foam being semi-rigid polyurethane.

27. A protective layer according to claim 22, said formed skin having a first protective zone and a second protective zone, each said protective zone of said formed skin having a plurality of vent holes provided therein effective to regulate the local rigidity of said protective layer adjacent said protective zone.

28. A protective layer according to claim 22, said protective layer being more rigid adjacent said first protective zone than adjacent said second protective zone.

29. A protective layer according to claim 22, said protective layer being a seamless protective layer, and being more rigid adjacent said first protective zone than adjacent said second protective zone.